Amendments to the Claims

Claims 1 and 17 are amended and claim 23 is canceled. Thus, claims 1-3, 17, 22 and 24 remain pending. Changes to the claims are provided in the below listing of claims.

Listing of Claims

1. (Currently amended) A method for production of heterologous proteinaceous substances in plant material, comprising the steps of:

culturing, in a culture medium, plant material transformed with a construct encoding a secretion signal peptide operably linked to a protein, that produces heterologous proteinaceous substances; and

obtaining secreted heterologous proteinaceous substances from the culture medium without disrupting producing tissues or cells;

wherein the plant material is protonema tissue selected from the group consisting of *Physcomitrella patens*, *Marchantia polymorpha*, *Ceratodon purpureus*, and *Funaria hygrometica*.

2. (Previously Presented) The method according to claim 1, characterized in that proteinaceous substances released into the culture medium are biologically active.

3. (Previously Presented) The method according to claim 1, characterized in that the culture medium is free from sugars, vitamins and phytohormones.

4-16 (Canceled)

17. (Currently amended) A method for the production of heterologous proteinaceous substances in plant material, comprising the steps of:

culturing, in a culture medium, photosynthetically-active plant material transformed with a construct encoding a secretion signal peptide operably linked to a protein, that produces heterologous proteinaceous substances; and

obtaining secreted heterologous proteinaceous substances from the culture medium without disrupting producing tissues or cells,

wherein the photosynthetically-active plant material is protonema tissue selected from the group consisting of *Physcomitrella patens*, *Marchantia polymorpha*, *Ceratodon purpureus*, and *Funaria hygrometica*.

18-21 (Canceled)

22. (Previously Presented) The method according to claim 1, characterized in that the proteinaceous substances are antibodies capable of specific binding with antigen.

23. (Canceled)

24. (Previously Presented) The method according to claim 1, characterized in that the proteinaceous substances are enzymes capable of converting a target substrate to product.